

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DIETER SCHULER,
CHRISTOPH EITEL,
GERALD KUNZEL and ANDREAS EWERT

Appeal No. 2004-0869
Application No. 09/446,390

ON BRIEF

Before KIMLIN, GARRIS, and KRATZ, Administrative Patent Judges.
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 6 and 10-24, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a brush for an electric machine including a supply of lubricant, and an electric machine including a commutator, a brush and a lubricant supply. An understanding of the invention can be derived from a reading of exemplary claims 15 and 20, which are reproduced below.

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15. A brush for an electric machine equipped with a collector, comprising:

an end face of the brush with a plurality of channels; and

a supply of lubricant in an area of the end face of the brush allocated to the collector, wherein the plurality of channels along the collector end face are open at each end along the collector end face.

20. An electric machine comprising:

a commutator;

at least one brush, wherein a collector-side end face of the at least one brush has a plurality of channels; and

a supply of lubricant for providing lubrication between the commutator and the at least one brush,

wherein the at least one brush contains the lubricant at a location which is at least one of: (1) in or on the collector-side end face of the at least one brush, and (b) in or on a partial length of the at least one brush beginning at the collector-side end face of the at least one brush, wherein the channels are open at each end along the collector-side end face.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Burr et al. (Burr)	2,172,045	Sep. 05, 1939
Portail	2,555,997	Jun. 05, 1951
Grunewald et al. (Grunewald)	3,841,906	Oct. 15, 1974
Rogelein	4,820,948	Apr. 11, 1989
Bruhn	5,909,077	Jun. 01, 1999

Rejections¹

Claims 15, 20, 21 and 24 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Burr. Claims 6, 10, 11, 14, 16, 19, 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Burr in view of Portail. Claims 12 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Burr in view of Portail and Grunewald. Claims 13 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Burr in view of Portail and Rogelein. Claims 6, 10, 11, 14-16 and 19 -24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bruhn in view of Portail. Claims 12 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bruhn in view of Portail and Grunewald. Claims 13 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bruhn in view of Portail and Rogelein.

We refer to the briefs and to the answer for a complete exposition of the opposing viewpoints expressed by appellants and the examiner concerning the issues before us on this appeal.

¹ The examiner argues that "claims 15, 20, 21, and 24 ... do not particularly point out and distinctly claim the subject matter" (answer, page 13) without maintaining a rejection of those claims under the second paragraph of 35 U.S.C. § 112. This is clearly improper as noted by appellants in the reply brief.

OPINION

We affirm the examiner's § 103(a) rejections utilizing Bruhn as the primary reference and the examiner's § 102(b) rejection over Burr but reverse the examiner's stated § 103(a) rejections utilizing Burr as the primary reference. Our reasoning follows.

At the outset, we observe that appellants (brief, page 5) state that "all claims subject to the particular rejection will be argued as a single group."

§ 102(b) rejection

We select claim 15 as the representative claim on which we decide this appeal as to examiner's § 102(b) rejection of claims 15, 20, 21 and 24 over Burr. The examiner has determined that Burr discloses a brush (1) including a slot or channels (2) and a lubricant filler or supply (3) corresponding to the that required by representative claim 15. Appellants disagreement with the examiner's anticipation rejection centers on the representative claim 15 limitation "wherein the plurality of channels along the collector end face are open at each end along the collector end face."

Appellants maintain that the heat hardenable lubricant filler material of Burr is employed to fill the brush slots in a

manner such that the slots or recesses of Burr are closed and thus not open at each end along the collector end face as required by representative claim 15. We disagree.

Burr expressly describes the brush as including slots or recesses that are open to the "bearing face of the brush." See page 1, column 2, lines 1-3 of Burr. Burr (page 1, column 2, lines 33-35) further teaches that the lubricant filler is porous, less or more so depending on the amount of solvent employed. We note that representative claim 15 does not exclude adding the lubricant supply as a slot or channel filler so long as the channels are open at each end along the collector end face. Nor does representative claim 15 require any particular degree of openness at each end of the channels along the brush end face. Since Burr teaches that the slots are open to the face of the brush and the slot filler is described as being porous, we agree with the examiner's determination that the porous filler of Burr does not render the slots closed as argued. We note that appellants' specification does not furnish any definition for the term "open", or even use that term in describing the channels, in a manner so as to exclude a porous filler as used in Burr. Consequently, we affirm the examiner's § 102(b) rejection of claims 15, 20, 21 and 24 over Burr, on this record.

§ 103(a) rejections over Burr

The examiner's separate § 103(a) rejections over Burr in combination with Portail, Portail and Grunewald, and Portail and Rogelein are another matter. Here, all of the claims so rejected require an oil lubricant whereas Burr employs a plastic heat hardenable lubricant filler that is "permanently secured in a recess formed in the brush body." See page 1, column 1, lines 31-31 of Burr. A common thread running through the examiner's § 103(a) rejections employing Burr as a primary reference as set forth at page 5 of the answer is the use of the oil lubricant of Portail instead of the lubricant of Burr in Burr. However, the examiner has not fairly explained why one of ordinary skill in the art would have been led to use the liquid oil lubricant of Portail as a substitute for the plastic heat hardenable lubricant filler of Burr. In this regard, we note that Burr is concerned with securing the porous heat hardenable plastic lubricant to the brush body. Because the examiner has not carried the burden of establishing a prima facie case of obviousness for the reasons outlined above, we reverse the examiner's § 103(a) rejections employing Burr as a primary reference.

§ 103(a) rejections over Bruhn

We select claim 15 as the representative claim on which we decide this appeal of the examiner's § 103(a) rejection of claims 6, 10, 11, 14-16 and 19-24 over Bruhn in view of Portail. Appellants do not dispute the examiner's determination that Bruhn discloses a brush for an electric machine that employs a collector wherein the brush includes grooves on an end face thereof corresponding to appellants' brush having channels as specified in representative claim 15 but for the recited supply of lubricant.

With respect to that lubricant supply feature, the examiner's position in asserting the obviousness of having a supply of lubricant in the area of the grooved end face of the brush of Bruhn is based on the teachings of Portail with respect to using lubrication in such an end face location to reduce friction between the brush and commutator (collector) of an electrical machine. See pages 8 and 9 of the answer.

Appellants, on the other hand, seemingly maintain that the purpose of the grooves of Bruhn is to reduce noise and increase the abrasion resistance of the brush during brush/collector (commutator) contact whereas the lubrication supply of Portail is furnished to serve an allegedly different purpose - to improve

the sliding and rotating contacts of the brushes and commutator of an electrical machine. Based on those alleged differences in purpose of the grooves and lubrication of Bruhn and Portail, respectively, appellants assert that one of ordinary skill in the art would not have been motivated to employ a lubrication supply for the brush of Bruhn. Appellants further note that neither of the applied references discloses the reduction of the deleterious presence of oil lubricant in an electric machine or reducing risks of conducting parasitic currents as asserted by appellants in the present application. See pages 17 and 18 of the brief and page 7 of the reply brief.

We agree with the examiner. Portail (column 2, lines 3-38 and column 3, lines 26-50) not only expressly teaches that adding a lubricant supply to the area of the contacting end face of the brushes will reduce friction between the contacting surfaces of the brush and commutators of electrical machines but that such lubrication would also improve electrical contact. Thus, one of ordinary skill in the art at the time of the invention would have been led to add a lubricant supply to the brush contacting face area of Bruhn to obtain those advantages of reduced friction and better electrical contact as taught by Portail. Appellants have not articulated, much less supported with any evidence, a

rationale basis explaining why one of ordinary skill in the art would not find the use of a lubricant supply for friction reduction compatible with the grooved brushes of Bruhn for reducing noise as desired by Bruhn. After all, Bruhn (column 1, lines 13-17) explains that "noise is caused by the contact surface of the brush sliding along the surface of the collector..." and that the brush should be resistant to abrasion (column 1, lines 21-23). That description of Bruhn would appear to suggest that Bruhn's brush is compatible with adding a lubricant system to reduce friction and wear/abrasion of the brush. Appellants have not argued, much less shown, that adding lubrication as taught by Portail would increase noise or otherwise be detrimental to reducing noise as desired by Bruhn.

Moreover, representative claim 15 is not limited to an oil lubricant and even if it did require the lubricant to be oil does not further require a method of operating an electrical machine with an amount of lubricant that is completely used up so as to obtain the alleged benefit of reducing parasitic currents as noted in appellants' specification. See, e.g., the abstract and page 2 of appellants' specification. See In re Self, 671 F.2d 1344, 1350-1351, 213 USPQ 1, 7 (CCPA 1982) (when the claim does not recite allegedly distinguishable features, "appellant[s]

cannot rely on them to establish patentability."). Accordingly, we affirm the examiner's § 103(a) rejection of claims 6, 10, 11, 14-16 and 19-24 as being unpatentable over Bruhn in view of Portail.

Regarding the examiner's separate § 103(a) rejection of claims 12 and 17 over Bruhn in view of Portail and Grunewald, we select claim 12 as the representative claim. Dependent claim 12 additionally requires that the brush is made from carbon, pressed metal powder or alloys thereof. We note that Bruhn (column 1, lines 5 and 6, and column 1, line 66 through column 2, line 49) teaches that the brush can be made using carbon material. Thus, appellants' additional arguments concerning a lack of motivation to combine Grunewald with Bruhn even if persuasive, which they are not, would not result in establishing a reversible error in the examiner's rejection because Grunewald is not necessary to establish the obviousness of employing carbon material for the brush of Bruhn. It follows that we will sustain the examiner's § 103(a) rejection of claims 12 and 17.

Regarding the examiner's separate § 103(a) rejection of claims 13 and 18 over Bruhn in view of Portail and Rogelein, we select claim 13 as the representative claim on which we decide this appeal as to that rejection. Dependent claim 13

additionally requires a dust guard. The examiner relies on Rogelein to suggest the use of a dust guard in Bruhn whereas appellants argue that Rogelein does not disclose a dust guard for protecting a brush. We side with the examiner. Representative claim 13 does not require any particular type of brush protecting dust guard. At page 5 of appellants' specification a dust guard is described as being placed on a "shaft 9 between collector 8 and friction bearing bush 12" albeit representative appealed claim 13 is not so limited. See element 25 of appellants' drawing figure 1. As pointed out by the examiner (answer, page 12), Rogelein discloses a collar element (29) that is alleged to correspond to the claimed dust guard. In this regard, we note that the collar 29 of Rogelein is mounted on a shaft (2) between a bearing (7) and brushes (14) and commutator (4). While appellants generally maintain that Rogelein does not disclose a dust guard, appellants have not specifically addressed the examiner's apparently reasonable contention that collar (29) of Rogelein represents structure corresponding to the claimed dust guard. Consequently, on this record, we determine that the examiner has established a prima facie case of obviousness of representative claim 13 that is not specifically addressed by appellants' comments in the briefs. It follows that we will

sustain the examiner's 103(a) rejection of claims 13 and 18 on this record.

CONCLUSION

To summarize, the decision of the examiner to reject claims 15, 20, 21 and 24 under 35 U.S.C. § 102(b) as being anticipated by Burr; to reject claims 6, 10, 11, 14-16 and 19-24 under 35 U.S.C. § 103(a) as being unpatentable over Bruhn in view of Portail; to reject claims 12 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Bruhn in view of Portail and Grunewald; and to reject claims 13 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Bruhn in view of Portail and Rogelein is affirmed. The decision of the examiner to reject claims 6, 10, 11, 14, 16, 19, 22 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Burr in view of Portail; to reject claims 12 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Burr in view of Portail and Grunewald; and to reject claims 13 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Burr in view of Portail and Rogelein is reversed.

AFFIRMED

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